

CLAIMS

1. An image input device comprising:

an image input part into which an image is entered;

an image evaluation part which evaluates image quality or subject of the image by using a predetermined threshold value;

a cause determination part which determines a cause of image degradation corresponding to the image, based on an evaluation result of the image by the image evaluation part;

an output part which outputs to a user a predetermined question to determine the cause of image degradation of the image;

an answer input part into which an answer to the predetermined question is entered; and

a cause determination part which determines whether a match occurs or not between the cause of image degradation and the cause of image degradation corresponding to the answer, wherein

in a case where the cause determination part determines that the cause of image degradation and the cause of image degradation corresponding to the answer do not match with each other, the image evaluation part changes the predetermined threshold value used to

evaluate the image so that the cause of image degradation and the cause of image degradation corresponding to the answer can match with each other.

2. The image input device according to claim 1, wherein the image evaluation part comprises:

an intensity determination part which determines whether intensity of the image is within a first threshold range or not;

a degree-of-focusing determination part which determines whether a degree of focusing of the image is within a second threshold range or not;

a subject detection part which detects a presence or absence of an area which is assumed to be the subject of the image; and

a high intensity area detection part which detects a presence or absence of a high intensity area exceeding a third threshold range from the image.

3. The image input device according to claim 2, wherein the cause determination part determines that the cause of image degradation is reflection due to external light when:

the intensity determination part determines that the intensity of the image is within the first threshold

range;

the degree-of-focusing determination part determines that the degree of focusing of the image is within the second threshold range;

the subject detection part detects the area which is assumed to be the subject of the image; and

the high intensity area detection part determines that there is no area exceeding the third threshold range in the image.

4. The image input device according to claim 3, wherein

when the cause determination part determines that the cause of image degradation and the cause of image degradation corresponding to the answer do not match with each other, the image evaluation part changes one of the first threshold range, the second threshold range and the third threshold range.

5. The image input device according to any one of claims 1 to 4 further comprising:

an irradiation part which irradiates the subject;
and

an irradiation output control part which controls an output of the irradiation part, wherein

when the cause determination part determines that

the cause of image degradation is reflection due to the external light, the irradiation output control part increases the output of the irradiation part.

6. An image input device comprising:

an image input part into which an image of a subject is entered;

an intensity determination part which determines whether intensity of the image is within a first threshold range or not;

a degree-of-focusing determination part which determines whether a degree of focusing of the image is within a second threshold range or not;

a subject detection part which detects a presence or absence of an area which is assumed to be the subject of the image;

a high intensity area detection part which detects a presence or absence of a high intensity area exceeding a third threshold range from the image; and

a cause determination part which determines that a cause of image degradation of the image is reflection due to external light when:

the intensity determination part determines that the intensity of the image is within the first threshold range;

the degree-of-focusing determination part determines that the degree of focusing of the image is within the second threshold range;

the subject detection part detects the area which is assumed to be the subject of the image; and

the high intensity area detection part determines that there is no area exceeding the third threshold range in the image.

7. An authentication device comprising:

an image input device according to any one of claims 1 to 6; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the image input device, and by comparing the authentication information with registered authentication information previously registered.

8. The authentication device according to claim 7, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.